Technical Purchase Description (TPD) for Polish, Metal, Brass

1. Scope

This technical purchase description (TPD) covers a liquid combination cleaner-polishers with tarnish preventative for use on brass and related alloys, copper, chrome, or nickel.

2. Units of Issue

The metal polish shall be available in the following units of issue:

1) One (1) Pint container
2) Twelve (12) 1-pint containers

3. Requirements

3.1 Material

The polish shall contain suitable cleaning agents and finely divided abrasives. The polish shall be a uniform liquid and shall not contain any sediment that cannot readily be put into suspension by thorough shaking. The formulation of the polish shall be optional with the manufacturers except as restricted by the requirements specified in Table I.

Table I.

Physical requirements	Limits	Test Method
pH at 25° C	8.0 - 10.5	ASTM D1172
Non volative matter, % by Weight	25% minimum	ASTM D2834
Abrasive Content, % by weight	18% minimum	Requirements 3.1.1
Passing through 200 mesh sieve	100 minimum	Requirements 3.1.2
Flash Point, C	60 minimum	ASTM D92

3.1.1 Abrasive Content

Accurately weigh 10-12 grams of polish in a tared centrifuge tube. Dilute and disperse polish to10 mL with hot alcohol or hot distilled water, and then centrifuge at approximately 2000 rpm for 5 minutes. Decant liquid carefully so as to avoid losing solid matter. Repeat this procedure of diluting, dispersing, centrifuging, and decanting two more times. After the third treatment, place residual solids in an oven maintained at 105 $\pm$ 2 for 4 hours. Cool in a desiccator, and weigh residue. Repeat drying process until weight is constant. Calculate percent abrasive matter as follows:

% abrasives = (reside weight X 100)/(polish weight)

3.1.2 Sieve Test

Weigh approximately 50 gram of polish and place in a 800 mL beaker. Dilute polish to 500 mL with hot alcohol or hot distilled water; cover with a watch glass; and digest on a steam bath for 1 hour. Vigorously stir to disperse solid matter through a tared No. 200 sieve, and then wash with distilled water. Weigh the sieve after drying for 4 hours at 105 + 2 C. Retention of any material on the 200 mesh sieve screen shall constitute failure of the test.

3.2 Cleaning Efficiency

The cleaning efficiency of the polish shall be determined by test comparisons with two other brass polishes from other manufacturers. The polish shall have a cleaning efficiency greater than 85 percent when tested using the following method:

a. Tarnish 6 brass panels by immersion for 5 minutes in a tarnishing solution of ammonium chloride and cupric sulfate. Rinse the panels with tap water and wipe dry with a clean, soft cloth.

b. Apply 8 mL of polishing solution on one tarnished panel and stroke 2 minutes. Repeat one more time with panel 2. Visually inspect the panels and estimate percent tarnish removed. Calculate average percent of tarnish removed.

c. Repeat above procedure with two other manufacturers'brass polish cleaners. Report average cleaning efficiency results for all three cleaners.

3.3 Prohibited Materials

3.3.1 Carcinogens and Toxins

The materials used in the brass polish shall not contain any known or suspected human carcinogens in concentrations equal to or greater than 0.1% (by weight) as defined in: Code of Federal Regulations 29 CFR 1910.1000 Series, Occupational Safety and Health Administration (OSHA) Subpart Z Regulated Carcinogens/Toxic and Hazardous Substance List (latest edition); International Agency for Research on Cancer (IARC) Groups 1, 2A, and 2B (latest edition); and the latest annual report of the National Toxicology Program's (NTP) of Known to be Human Carcinogens, and Reasonably Anticipated to be Human Carcinogens.

3.3.2 Reproductive Hazards

The materials used in the brass polish shall not contain the following occupational reproductive hazardous chemicals if used in concentrations equal to or greater than 0.1 percent (by weight): acetohydroxamic acid, aminopterin, arsenic, benomyl, benzene, bromoxynil, cadmium, carbon disulfide, carbon monoxide, chlordecone, cyanazine, cycloheximide, cyhexatin, dinocap, dinoseb, 1,2-dibromo-3-chloropropane, m-dinitrobenzene, o-dinitrobenzene, p-dinitrobenzene, epichlorohydrin, ethylene glycol monoethyl ether, ethylene glycol monoethyl ether acetate, ethylene glycol monomethyl ether, ethylene monomethyl ether acetate, ethylene oxide, hexachlorobenzene, hydroxurea, lead,

mercury and mercury compounds, methyl bromide, methyl mercury, nickel carbonyl, polybrominated biphenyls, polychlorinated biphenyls, 2,3,7,8-tetrachloro-dibenzo-para-dioxin, toluene, and warfarin and any other chemical species listed in OPNAVINSTR 5100.23, Chapter 29, Appendix 29-B. The most current version of the instruction can be obtained from the internet website: http://www.navosh.net.

3.4 Hazardous Waste
The brass polish shall not be classified as a hazardous waste in accordance with 29 CFR 1910.1200.

3.5 Storage Stability
The polish shall show no visible evidence of deterioration after storage in ambient conditions for six months.

3.6 Material Safety Data Sheets (MSDS)
MSDS's shall be furnished in accordance with FED-STD-313. The pertinent Government mailing addresses for submission of data are listed in Appendix B of FED-STD-313.

4. Regulatory Requirements
The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

5. Product Conformance

5.1 Contractor Certification. The product provided shall meet the salient characteristics, conform to the producer's own drawings, specifications, standards, and quality assurance practices and be the same product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

5.2 Market Acceptability. The following market acceptability criteria are necessary to document the quality of the product to be provided under this TPD:

a) The company furnishing the hand cleaner must have been producing a product meeting the requirements of this technical purchase description for at least 6 months.
b) The Government reserves the right to require proof of such conformance.

6. Source of Documents

6.1 Requests for copies of ASTM test methods should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. Website: http://www.astm.org

6.2 The FAR may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington DC 20402-0001.

6.3 Copies of all IARC publications are available directly from IARCPress, 150 Cours Albert Thomas, F-69372 Lyon cedex 08, France (Fax: +33 4 72 73 83 02; E-mail press@iarc.fr).

6.4 Copies of the most recent Annual Report an Carcinogens may be obtained from the U.S. Department of Health and Human Services, Public Health Service, National Toxicology Program, P.O. Box 12233, Research Triangle Park, NC 27709. Website: HYPERLINK http://ntp-server.niehs.nih.gov/NewHomeRoc/AboutRoC.html

6.5 Federal Standards and Specifications may be obtained from the General Services Administration Specifications Section, Suite 8100, 470 E. L'Enfant Plaza, SW, Washington, DC.

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